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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Bruno Bassi

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EXAMINER

KERNS, KEVIN P

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

06/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,950	Applicant(s) BASSI, BRUNO	
	Examiner Kevin P. Kerns	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-50 is/are rejected.
- 7) ☒ Claim(s) 28,29,36,39,45,47,49 and 50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this instance, the abstract is written in two paragraphs and includes a phrase that can be implied, "This invention regards" in the 1st line.

Claim Objections

2. Claims 28, 29, 36, 39, 45, 47, 49, and 50 are objected to because of the following informalities: in claim 28, 3rd line, delete "for" after "providing" for clarity. In claim 29, 2nd line, delete "the" before "expulsion" to obtain proper antecedent basis. In claim 36, 2nd line, replace "cylinders" with "cylinder" before "heads". In claim 39, 2nd line, replace "then" with "them" after "rotate". In claim 45, 1st line, replace "cylinders" with "cylinder" before "heads". In claim 47, 2nd line, delete "the" before "vacuuming" to obtain proper antecedent basis. In claim 49, 1st line, replace "cylinders" with "cylinder" before "heads". In claim 50, 2nd line, it is believed that "jointed" should be replaced with "joined".
Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 28-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 28 recites the broad recitation "casting procedure", and the claim also recites "particularly for engine cylinder heads" which is the narrower statement of the range/limitation.

Claim 36 recites the broad recitation “casting machine...”, and the claim also recites “especially for engine cylinder(s) heads” which is the narrower statement of the range/limitation.

Claim 41 recites the broad recitation “A casting machine...”, and the claim also recites “especially for engine cylinder heads” which is the narrower statement of the range/limitation.

Claims 45 and 49 recite the broad recitation “A mold for obtaining castings”, and the claims also recite “especially engine cylinder(s) heads” which is the narrower statement of the range/limitation.

Claim 28 recites the limitation “the level”. There is insufficient antecedent basis for this limitation in the claim. It is also unclear as to what “level” is defined by the open risers.

Claims 30, 31, 46, and 48 recite the limitation “the figure”. There is insufficient antecedent basis for this limitation in the claims. It is also unclear as to what “figure” is being defined. What structure is the “figure” intended to be?

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “mushrooms” in claims 35 and 38 is used by the claim to mean “structures on an ejector plate or on the side of a mold”, while the accepted meaning is

a "fungal plant". The term is indefinite because the specification does not clearly redefine the term.

Claim 39 recites the limitation "the figure parts". There is insufficient antecedent basis for this limitation in the claim. It is also unclear as to what "figure part" is being defined. What structure is the "figure part" intended to be?

Claim 43 recites the limitation "the bench", "the latter", and "the hinged side". There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 28-33, 44-46, and 48 insofar as definite (in view of the 35 USC 112, 2nd paragraph rejections) are rejected under 35 U.S.C. 102(b) as being anticipated by Voisin (US 3,874,440).

As to claims 28 and 29, Voisin discloses a casting procedure comprising the steps of providing a mold with open risers (18) for feeding the casting and attracting any slag, fumes, and gases in the molten metal, forcing the molten metal into the mold and the riser from a furnace (8) situated below, and sealing the top of the mold using a plate (4), which prevents the molten metal from overflowing and which is connected to a vacuum device (column 2, lines 62-68; column 3, lines 1-19; and Figures 1 and 3).

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As to claim 30, the upper part of the mold has cores (Figures 1 and 3).

As to claim 31, the upper part of the mold using a metal cope (Figures 1 and 3).

As to claims 32 and 45, Voisin discloses a casting machine comprising a lower main structure holding a furnace (8), an upper main structure resting on the lower structure, a base plate (6) on the upper structure, a cooled plate (6 and 6a), and a plate holder (7) fastened to the ejector plate (17) (see column 2, lines 62-68; column 3, lines 1-68; column 4, lines 1-33; and Figures 1 and 3).

As to claim 33, the cooled plate (6) is fitted with an opening for passage of the ejector plate (Figures 1 and 3).

As to claim 44, the main lower structure is removable from the upper structure (Figures 1 and 3).

As to claims 46 and 48, the upper plate (4) prevents metal from overflowing (Figures 1 and 3).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 41, 42, 49, and 50 insofar as definite (in view of the 35 USC 112, 2nd paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Voisin (US 3,874,440) in view of Farkas (US 6,499,529).

Voisin discloses a casting apparatus comprising an upper part with a metal cope (4), a lower main structure for holding a furnace, a base plate (6), a cooling plate (6 and 6a), and a plate holder (7). Voisin fails to teach a vacuum chamber communicating with channels on the metal cope and wherein the mold is tiltable.

However, Farkas discloses a rotatable mold having a vacuum chamber connecting to the core (22) and to remove any gas in the die cavity for the purpose of reducing gas entrapment (abstract; column 4, lines 45-49; column 7, lines 17-27; and Figures 2 and 3).

Therefore, it would have been obvious to one of ordinary skill in the art to have a rotatable mold with a vacuum as taught by Farkas, in Voisin, in order to reduce gas entrapment during casting (Farkas; column 4, lines 45-49).

9. Claims 34-40, 43, and 47 insofar as definite (in view of the 35 USC 112, 2nd paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Voisin (US 3,874,440).

Voisin discloses slides which run along the plate holder and slots to receive the slides, two side molds, with one side of the mold made in at least two overlapping parts, and the lower main structure is removable from the upper structure. Voison fails to

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teach quick lock means and “mushrooms” moved in the slots to lock the ejector plate and plate holder. Voison also fails to teach sides that are moved by hydraulic cylinders.

However, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have quick lock means, having “mushrooms” in the slot to lock the two plates, as well as having hydraulic cylinders to move the two sides, since the ejector plates are movable and therefore would need a locking means to hold the ejector plate together. In addition, the side molds would be obvious to use hydraulic cylinders to move, since the metal molds are heavy and hot during and after casting.

Response to Arguments

10. The examiner acknowledges the applicant's amendment provided with the request for continued examination received by the USPTO on April 4, 2008. Upon review, new objections to the abstract and claims, as well as new 35 USC 112, 2nd paragraph rejections, are raised in above sections 1-4. Claims 28-50 remain under consideration in the application.

11. Applicant's arguments filed April 4, 2008 have been fully considered but they are not persuasive.

With regard to the applicant's remarks/arguments on pages 8 and 9 of the amendment, it is first noted (in the applicant's comments in the 1st paragraph on page 8) that the examiner suggested to recite an open riser to overcome the rejections based on

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the cited reference(s). The examiner respectfully disagrees, as it is suggested to claim distinct structural features that include an open riser on top of the mold to hold extra molten metal while the cavity is being filled. The open riser is to compensate additional molten metal by gravity feed back to the mold cavity during the solidification and shrinkage of the molten metal in the cavity. In the applicant's amendment, the applicant only claims molten metal flow in the risers, but no mention of the riser on top of the mold. Therefore, the claims remain rejected. With regard to the applicant's argument that the combination of Voisin and Farkas are not analogous, the examiner respectfully disagrees. Farkas was introduced to teach removal of gas and reducing gas entrapment in the mold. Therefore, it would have been obvious to one of ordinary skill in the art to have a rotatable mold with a vacuum, as taught by Farkas, in Voisin, in order to reduce gas entrapment during casting.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns
Primary Examiner
Art Unit 1793

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Primary Examiner, Art Unit 1793
June 3, 2008